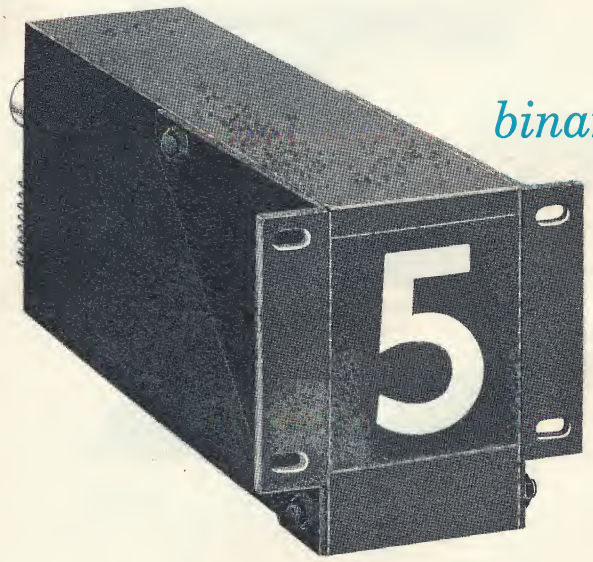


bina-view®

binary input, self-decoding readout display unit

ONE-PLANE

A

ACTUAL SIZE OF VIEWING SCREEN AND MAXIMUM CHARACTER SIZE

DECODES BINARY TO DECIMAL OR ALPHA-NUMERIC

LOW POWER

NO AMPLIFIER NEEDED

ELECTRO-MAGNETIC OPERATION

MEMORY

DISPLAYS COLORS ON COMMAND

The Bina-View Readout accepts any binary or teletype code up to six bits, does its own decoding, and displays the proper character. No auxiliary translators, relays, or diodes are required.

Low Power. The Bina-View may be operated with as little as 100 milliwatts per bit, four watts for setup. It may be driven directly from computers and other electronic equipment.

Memory. The Bina-View will continue to display the last character entered after all signal-pulse and set-pulse power have been removed. In addition, should all power be removed for any reason, such as a power failure, the character information will be retained and will be redisplayed when the power is restored.

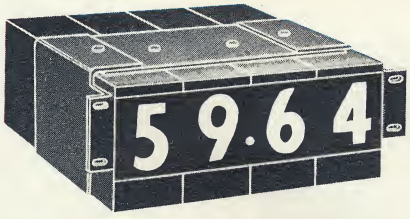
Optional Check-Back feature. When required, contact closures may be provided to verify input signals. These contact closures may also be used to transmit the input signals back into the source equipment, or other related equipment.

Color Displays. Various colors in addition to white may be displayed on command. To provide any color and white an extra bit coil is used, which provides one color and white or 2 colors and no white. By adding a second extra bit coil you can have 3 colors and white or 4 colors. Each color, except for white, requires a color plate.

Optional Floating Decimal Point. A separate decimal point can be added to the Bina-View, which will display with any character on command. It is illuminated by a separate lamp circuit and does not require any bit coils or character plate. Lamp operates at 6.3 volts, .3 watts, and has a 60,000 hour life.

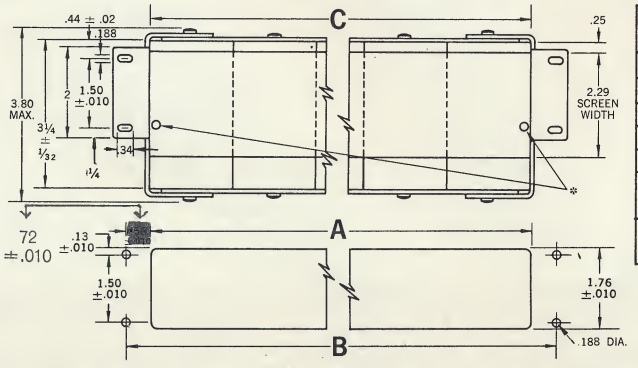
Optional Quick Disconnect. A Quick Disconnect Connector is available, which permits the Bina-View to be easily unplugged and removed from equipment without disturbing wiring connections. It also permits less expensive assembly-line wiring to connector without requiring a technician to wire directly to the Bina-View.

assemblies



Bina-View Readouts may be grouped to form in-line assemblies. When assemblies are desired, the units must be pre-assembled by the manufacturer. A continuous viewing screen extends the full width of the assembly for ease of reading. The individual Bina-View Readouts desired should be specified by written information of what each unit should contain. The proper sequence of individual Bina-View Readouts within the assembly should be listed from left to right as seen from the viewing screen. Once a customer has been assigned an "assembly number" for a particular grouping of units this number may be used for all future re-orders.

MOUNTING DIMENSIONS FOR BINA-VIEW ASSEMBLIES



No. of Units	A ±.010	B ±.010	C (Ref.)
2	3.34	4.46	3.68
3	5.18	6.30	5.52
4	7.02	8.14	7.36
5	8.86	9.98	9.20
6	10.70	11.82	11.04
7	12.54 ±.015	13.66 ±.015	12.88
8	14.38 ±.015	15.50 ±.015	14.72

B ±.010
4.78
6.62
8.46
10.30
12.14
13.98 ±.015
15.82 ±.015

* Dimension "A" is not applicable when optional decimal point is used in positions shown

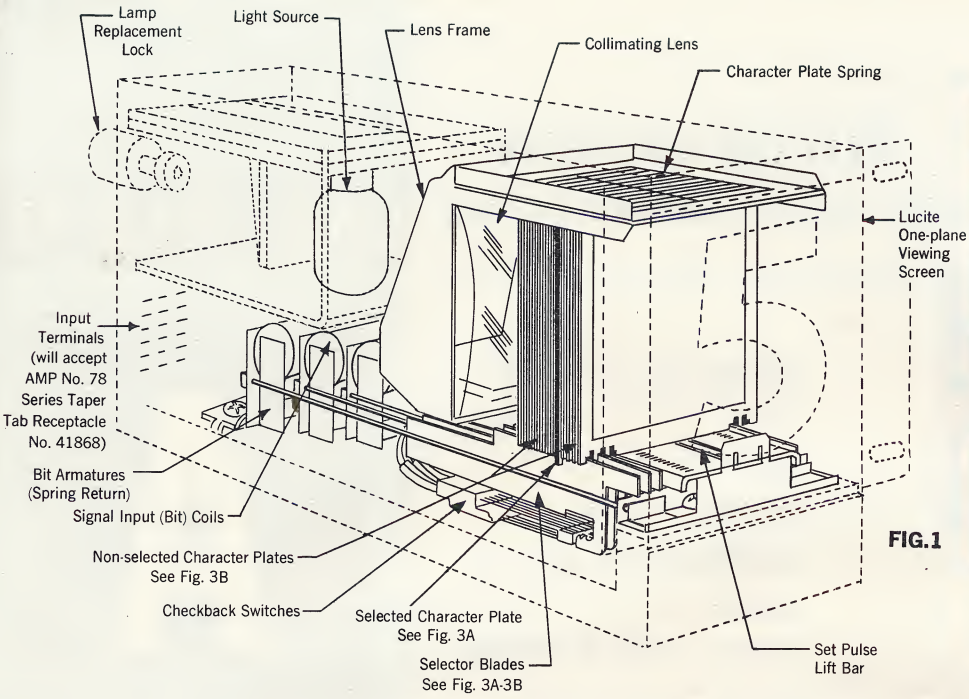


FIG. 1

The **Bina-View** accepts any binary code up to six bits, does its own translating, and displays the proper character. No auxiliary translators, relays or diodes required.

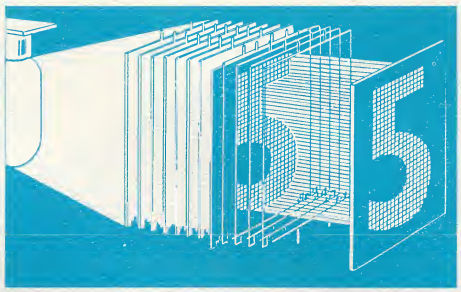


FIG. 2 The Bina-View employs a light interference technique as illustrated.

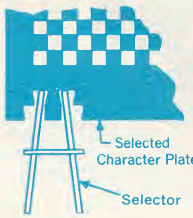


FIG. 3A

The selected character plate has all the selector blades aligned with the deep portion of the binary notching allowing the selected plate to drop into "display" position.

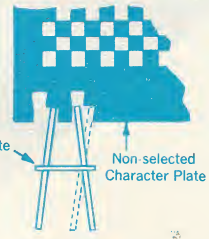
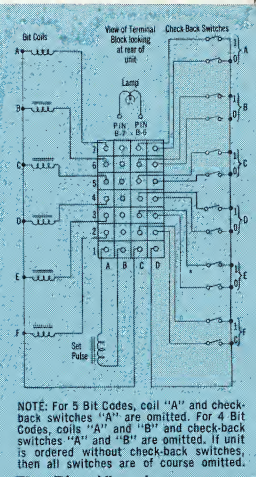


FIG. 3B

The non-selected character plates have at least one selector blade aligned with the shallow portion of the binary notching, maintaining all non-selected character plates in a lifted "non-display" position.



NOTE: For 5 Bit Codes, coil "A" and check-back switches "A" are omitted. For 4 Bit Codes, coils "A" and "B" and check-back switches "A" and "B" are omitted. If unit is ordered without check-back switches, then all switches are of course omitted.

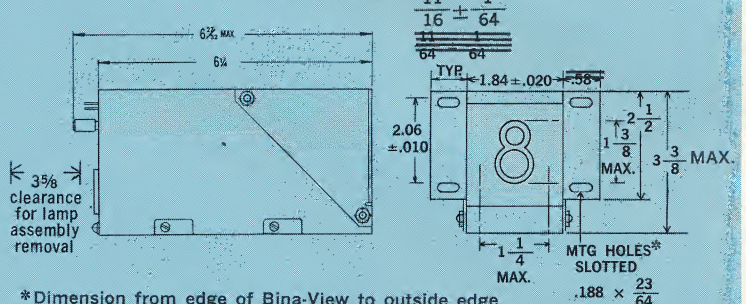
FIG. 4 CIRCUIT OPERATION

The Bina-View has 100 milliwatt signal input coils, one per bit, and one medium power set pulse coil. The signal input coils decode the proper character from the binary data upon command from the set pulse coil. The character is displayed by energizing the set-pulse coil for a minimum period of 30 milliseconds. Additional signal inputs may now be accepted into the unit without disturbing the character on display. Note that 30 ms. is the minimum duration for the set pulse, but that 50 ms. is the minimum signal input time. Futhermore, at least 30 ms. of the bit pulse must be coincident with the set pulse, plus an additional 20 ms. (minimum) extending beyond the set pulse.

The Bina-View is a non-complementary input device and requires that the coil of each bit be energized for "one." The absence of signal allows the bit to be spring returned to "zero."

The optional Check Back feature consists of two isolated reeds per bit, making contact with a common return. An unselected bit holds one reed from making contact with the common, and allows the other of the pair to make contact. When the bit is selected, this situation is reversed, so that either condition of a bit may be checked both as an open and a closed circuit. During operation of the set pulse, however, **all** reeds make contact to the common.

MOUNTING DIMENSIONS FOR SINGLE UNIT



*Dimension from edge of Bina-View to outside edge of mounting slot is .58" ± .01.

Design details subject to change without notice.

specifications:

1. SIGNAL INPUT COIL

Voltage (DC)	Current (ma.)	Power (watts)	Resistance (ohms)
6 ± 10%	14.5 min., 19.6 max.	.10 nominal	360 nominal
12 ± 10%	7.25 min., 9.81 max.	.10 nominal	1440 nominal
24 ± 10%	3.6 min., 4.9 max.	.10 nominal	5760 nominal

2. SET PULSE COIL

	For Units with Up To 12 Character Plates and without Optional Check Back			For Units with up to 12 Char. Plates and with Optional Check Back or 13 to 26 Char. Plates without Optional Check Back			For Units with 27 to 38 Char. Plates without Optional Check Back or 13 to 26 Char. Plates with Optional Check Back			For Units with 27 to 38 Character Plates with Optional Check Back		
Voltage (DC)	Current (Amps)	Power (Watts)	Resistance (Ohms)	Current (Amps)	Power (Watts)	Resistance (Ohms)	Current (Amps)	Power (Watts)	Resistance (Ohms)	Current (Amps)	Power (Watts)	Resistance (Ohms)
6	.67	4	9	1.33	8	4.5	2.0	12	3	4.0	24	1.5
12	.33	4	36	.67	8	18	1.0	12	12	2.0	24	6
24	.17	4	144	.33	8	72	.5	12	48	1.0	24	24
48	.08	4	576	.17	8	288	.25	12	192	.5	24	96
	*100%			*50%			*25%			*15%		

*Duty Cycle (over 1 minute Period)

3. Lamps available for light source;

Lamp #1855	6.3 Volts	.80 Amps.	5. Watts	3000 Hrs.*	80**
Lamp #1495	28 Volts	.30 Amps.	8.4 Watts	500 Hrs.*	60**
Lamp #1886	6.3 Volts	.90 Amps.	5.9 Watts	3000 Hrs.*	120**

*@ Rated Voltage. **Average character brightness for a 12 plate unit; measured in foot lamberts, using a spot-light meter.

4. **Electrical Life Rating:** (Check Back Contacts); 10 million operations @ 2 watts A.C. or 1 watt D.C.
5. **Operating Time:** 50 milliseconds (approx.)
6. **Standard Character Size:** 1⅜ in. Maximum.
7. **Special characters,** words, or numerals available in sizes ⅜ in. to 1⅜ in.
8. **Number of characters** available per unit up to 38.
9. **Dimensions:** 3 11/32 in. high, 1 27/32 in. wide, 6 27/32 in. long.
10. **Weight:** 2⅓ lbs. approx.
11. **Life:** 10 million operations of set pulse.
12. **Ambient Temp:** 160° F maximum.

NOTE—Specify code and characters, signals input coil voltage, set pulse coil voltage, and lamp desired when ordering.

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30157

industrial electronic engineers, inc.
5528 VINELAND AVENUE, NORTH HOLLYWOOD, CALIFORNIA • PHONE (AREA 213) 877-1144 • TWX NO: 769-1636

BINA-VIEW® PRICE SCHEDULE

QUANTITY	BASIC COST OF UNIT LESS CHARACTER & COLOR PLATES, CHECK BACK, FLOATING DECIMAL POINT & Q.D.						CHARACTER PLATE PRICE EACH	OPTIONAL CHECK-BACK FEATURE	ADDITION* FOR EACH COLOR PLATE	ADDITION FOR FLOATING DECIMAL POINT	ADDITION FOR QUICK DISCONNECT
	1 BIT	2 BIT	3 BIT	4 BIT	5 BIT	6 BIT					
	2 PLATES MAX.	4 PLATES MAX.	8 PLATES MAX.	16 PLATES MAX.	32 PLATES MAX.	38 PLATES MAX.					
1-9	$ 70.00	$ 77.50	$ 85.00	$ 92.50	$102.50	$112.50	$2.00	$27.50	$5.50	$5.00	$6.00
10-24	64.50	71.50	78.25	85.00	94.25	103.50	1.85	25.25	5.35	5.00	5.75
25-49	61.00	67.50	74.00	80.50	89.00	98.00	1.75	24.00	5.25	5.00	5.50
50-99	58.00	64.50	70.50	76.75	85.00	93.50	1.65	23.00	5.15	5.00	5.25
100-249	55.50	61.50	67.00	73.00	81.00	89.00	1.55	22.00	5.05	5.00	5.00
250-499	53.00	58.50	63.50	69.25	77.00	84.50	1.50	21.00	5.00	5.00	4.75
500-999	50.50	56.00	61.00	66.50	74.00	81.00	1.45	20.25	4.95	5.00	4.50
1,000-OVER	49.00	54.25	59.50	65.00	71.75	78.75	1.40	19.50	4.90	5.00	4.25

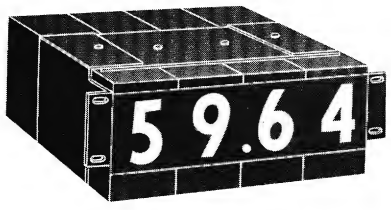
* To be able to display either white or a color on command, an extra bit coil is used, which provides 1 color and white or 2 colors and no white. By adding a second extra bit coil you can have 3 colors and white or 4 colors. Maximum number of bit coils is 6. Each color, except for white, requires a color plate.

INSTRUCTIONS FOR PRICING: To determine the cost of each Bina-View Display Unit, start with the basic cost of the unit, which depends upon the number of bits required. Next add the cost of the total character plates in the unit, plus the cost of any optional features you desire, such as check-back, floating decimal point operated by separate lamp circuit, color, or quick disconnect wiring connector.

AS AN EXAMPLE: Model 001 (0-9, + and -) would require 12 character plates. This is a 4 bit unit and the basic cost is $92.50 plus $2.00 times 12 or $116.50. If you want the unit to have the check-back feature, floating decimal and the quick disconnect connector, you would add $27.50, $5.00, and $6.00 for a total of $155.00. If you want to be able to display either white or a color on command, you must add a 5th bit to the unit, making the basic price $102.50 plus $24.00 for the 12 character plates and $5.50 for the color plate or a total of $132.00. If you also want the other optional features you must add their cost to this price.

ASSEMBLIES:

The above individual models can be assembled into groups of 2 through 8 units in any sequence at no additional charge. For assemblies of more than 8 units, please consult the factory.



SPECIAL NOTE: The above prices apply only to the standard Bina-View models and standard characters shown on the reference chart on the reverse side. For special codes and/or characters not listed on the standard reference chart or previously purchased, a non-recurring artwork charge is necessary for each character plate. For information on these charges, consult your local representative or contact the factory directly.

BINA-VIEW

Translates coded binary to decimal, alphabetic, or alphanumeric display. Maximum character size 1-3/8 inches.

QUANTITY DISCOUNTS ON EXTENDED SHIPMENTS

Quantity discounts may be applied to orders on an extended shipment basis where the following conditions are met.

1) To break an order down into more than one shipment, the order must total 100 or more display units.
2) Each shipment must equal at least 10% of the total order or 25 units (whichever is larger).
3) Shipments on a particular order must be completed within 12 months from receipt of order.
4) Quantity orders cancelled before completion will be billed at prices based on the price schedule for the number of displays actually shipped.

All prices subject to change without notice.

NOTES:

1) MINIMUM BILLING — $5.00 per order.
2) F.O.B. POINT — All prices are F.O.B. our plant, North Hollywood, California.
3) TERMS — net 30 days.
4) DELIVERY — For standard display units, 6 weeks. For special display units, 8 weeks.
5) STANDARD TERMS AND CONDITIONS — "Positively no products may be returned without factory authorization. All claims must be made within 10 days after receipt of goods."

TYPICAL MODEL NUMBERS

UNIT NO. AA 6 / 12 — 001 E — 1855 — C
(A) (B) (C) (D) (H) (E) (F)

ASSEMBLY NO. AA0007 -1855 — C
(G) (E) (F)

A. Series Number
B. Signal Input Coil Voltage.
C. Set-Pulse Coil Voltage.
D. Model Number (see reverse side).
E. Lamp Number
F. Optional Check Back Feature
G. Number assigned by factory for a particular grouping of models.
H. Designates Quick Disconnect Connector

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INDUSTRIAL ELECTRONIC ENGINEERS, INC.
5528 Vineland Avenue
North Hollywood, California

ORDERING REFERENCE CHART FOR STANDARD BINA-VIEW DISPLAY UNITS

	CODE 32-16-8-4-2-1	MODEL NUMBER, CODE NAME, AND CHARACTER ASSIGNMENT																			
		001	002	003	004	005	006	007	015	017	117	118	089	090	091	093	101	119	083	105	111	126
		Pure Binary	2421	Excess Three	Cyclic Grey	7421	5421	Pure Binary		Baudot												Tele-Type
1-4 BIT INPUT	0 0 0 0 0 0	0	0		0	0		0	+			0		0	0	0			0	ACV	0	
	0 0 0 0 0 1	1	1		1	1	1	1	–	3	A	1		1	1	1			1	DCV	1	E
	0 0 0 0 1 0	2	2		3	2	2	2			B	2		2	2	2	E		2	VOLTS	2	
	0 0 0 0 1 1	3	3	0	2	3	3	3			C	3		3	3	3			3	SEC	3	A
	0 0 0 1 0 0	4	4	1	7	4	4	4			D	4		4	4	4			4	OHMS	4	
	0 0 0 1 0 1	5		2	6	5	0	5			E	5		5	5	5			5	CPS	5	S
	0 0 0 1 1 0	6		3	4	6		6		8	F	6		6	6	6	A		6		6	I
	0 0 0 1 1 1	7		4	5			7		7	G	7		7	7	7	0	½	7		7	U
	0 0 1 0 0 0	8		5		7	5	8			H	8		8	8	8			8		8	
	0 0 1 0 0 1	9	+	6		8	6	9			I	9		9	9	9			9		9	D
	0 0 1 0 1 0		–	7		9	7			4	J	10					S		A		10	R
	0 0 1 0 1 1		5	8			8				K	11						¾	B		11	J
	0 0 1 1 0 0		6	9	8		9				L	12					I		C		12	N
	0 0 1 1 0 1		7		9						M	13						¾	D		13	F
	0 0 1 1 1 0	+	8	+	+	+	+				N	14					U		E		14	C
	0 0 1 1 1 1	–	9	–	–	–	–				O	15					I		F		15	K
5 BIT INPUT MINIMUM	0 1 0 0 0 0									5	P	16										T
	0 1 0 0 0 1										Q	17										Z
	0 1 0 0 1 0										R	18			S		D	¼				L
	0 1 0 0 1 1									2	S	19	0		T			¾				W
	0 1 0 1 0 0										T	20	1	A	U		R	¼				H
	0 1 0 1 0 1									6	U	21	2	B	V			¾				Y
	0 1 0 1 1 0									0	V	22	3	C	W		J					P
	0 1 0 1 1 1									1	W	23	4	D	X		2					Q
	0 1 1 0 0 0									9	X	24	5	E	Y		N	¼				O
	0 1 1 0 0 1										Y	25	6	F	Z							B
	0 1 1 0 1 0										Z	26	7	G			F					G
	0 1 1 0 1 1											27	8	H								
	0 1 1 1 0 0											28	9	I			C					M
	0 1 1 1 0 1											29										X
	0 1 1 1 1 0											30					K					V
	0 1 1 1 1 1																3					
6 BIT INPUT MINIMUM	1 0 0 0 0 0												A			A	T					
	1 0 0 0 0 1												B		J	B						3
	1 0 0 0 1 0												C		K	C	Z	¼				
	1 0 0 0 1 1												D		L	D						
	1 0 0 1 0 0												E	J	M	E	L	½				
	1 0 0 1 0 1												F	K	N	F						
	1 0 0 1 1 0												G	L	O	G	W					8
	1 0 0 1 1 1												H	M	P	H	4					7
	1 0 1 0 0 0												I	N	Q	I	H	½				
	1 0 1 0 0 1												J	O	R	J						
	1 0 1 0 1 0												K	P		K	Y					4
	1 0 1 0 1 1												L	Q		L						
	1 0 1 1 0 0												M	R		M	P					
	1 0 1 1 0 1												N			N						
	1 0 1 1 1 0												O			O	Q					
	1 0 1 1 1 1												P			P	5					
	1 1 0 0 0 0												Q			Q	O					5
	1 1 0 0 0 1												R		A	R		½				
	1 1 0 0 1 0												S		B	S	B					
	1 1 0 0 1 1												T		C	T						2
	1 1 0 1 0 0												U		D	U	G					
	1 1 0 1 0 1												V	S	E	V						6
	1 1 0 1 1 0												W	T	F	W						0
	1 1 0 1 1 1												X	U	G	X	6					1
	1 1 1 0 0 0												Y	V	H	Y	M					9
	1 1 1 0 0 1												Z	W	I	Z						
	1 1 1 0 1 0													X			X					
	1 1 1 0 1 1													Y								
	1 1 1 1 0 0													Z			V					
	1 1 1 1 0 1																					
	1 1 1 1 1 0																					
	1 1 1 1 1 1																7					
PRICE 1-9 QUANTITY		← 116.50 →						112.50	74.00	122.50	154.50	164.50	← 184.50 →				180.50	136.50	124.50	104.50	124.50	184.50

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